Attachment 2

GUIDELINES FOR PARTICIPATION IN THE

FY01 ITS INTEGRATION COMPONENT

of the

ITS DEPLOYMENT PROGRAM

U.S. Department of Transportation
Federal Highway Administration
Federal Transit Administration

Key differences between FY00 and FY01 Guidelines

Funding: The 20% and 30% match requirements are further clarified; and tables are added in the Project Description Template for entry of information on sources of match.

Standards Identification: List of ITS standards included in Guidelines; and the Project Description Template is expanded to include identification of standards that will be considered during project design.

Local Evaluations: List of local evaluation products/activities is included in Project Description template.

Appendix A: Examples of Projects Accepted for ITS Integration Component Funding During FY2000 is added to guidelines.

Appendix B: Additional Information on Eligible Integration Activities is added to guidelines.

Appendix C: Additional Information on Eligible Funding Activities is added to guidelines.

GUIDELINES FOR PARTICIPATION IN THE
FY01 ITS INTEGRATION COMPONENT
of the
ITS DEPLOYMENT PROGRAM

Table of Contents

GUIDELINES FOR PARTICIPATION IN THE
FY01 ITS INTEGRATION COMPONENT
of the
ITS DEPLOYMENT PROGRAM

U.S. Department of Transportation
Federal Highway Administration
Federal Transit Administration

SUMMARY: This document provides guidelines for participation in the metropolitan and rural Intelligent Transportation Systems (ITS) Integration Component of the ITS Deployment Program as defined in Section 5208 of the Transportation Equity Act for the 21st Century (TEA-21). The ITS Integration Component provides Federal funding for the integration of multi-modal ITS components in a variety of settings, including large regional areas (for example, Statewide, multi-State, or multi-city), metropolitan areas, non-metropolitan areas, and rural areas. ITS integration projects should improve transportation efficiency; promote safety; enhance transit integration; improve paratransit/demand-responsive transit operations, including operations of health and human service providers; improve traffic flow, including the flow of intermodal freight at ports of entry; reduce emissions of air pollutants; improve traveler information; promote tourism; enhance alternative transportation modes; or support improved transportation systems operations, management and maintenance.

A project that integrates transit or public safety components with other transportation management or real-time, multi-modal traveler information systems is encouraged.

PROJECT DESCRIPTIONS: Project descriptions for funding under the ITS Integration Component of the ITS Deployment Program must be coordinated and submitted by the State Department of Transportation (DOT) and/or other appropriate jurisdiction. They should be submitted to the Federal Highway Administration (FHWA) Division Office and the Federal Transit Administration (FTA) Regional Office as soon as possible, but no later than February 28, 2001 in order to ensure the timely award of funds.

Project descriptions shall be submitted in electronic form. The contents and description of acceptable electronic formats are described later in this guidance document. The project description shall be non-proprietary. Project description in electronic form will be forwarded to Mark Kehrli at FHWA HQ at the following e-mail address: ITSEARMARKS@fhwa.dot.gov.

FOR FURTHER INFORMATION CONTACT: For FHWA: Mr. Mark Kehrli, Office of Travel Management, (202)366-5465; for FTA: Mr. Ron Boenau, Office of Mobility Innovation (202)366-4995; Department of Transportation, 400 Seventh Street, SW., Washington, D.C. 20590. Office hours are from 7:45 a.m. to 4:15 p.m., E.T., Monday through Friday, except Federal holidays. Reference materials are available at the US DOT Website at: http://www.ITS.DOT.GOV/.

SUPPLEMENTARY INFORMATION:

1. Background

As stated in its 1997-2002 Strategic Plan, the mission of the U.S. DOT is to serve the United States by "ensuring a fast, safe, efficient, accessible and convenient transportation system that meets our vital national interests and enhances the quality of life of the American people, today and into the future." The Strategic Plan outlines five specific strategic goals:

1. Safety: Promote the public health and safety by working toward the elimination of transportation-related deaths, injuries, and property damage;

2. Mobility: Shape America's future by ensuring a transportation system that is accessible, integrated and efficient, and offers flexibility of choices;

3. Economic Growth and Trade: Advance America's economic growth and competitiveness domestically and internationally through efficient and flexible transportation;

4. Human and Natural Environment: Protect and enhance communities and the natural environment affected by transportation; and

5. National Security: Advance the nation's vital security interests in support of national strategies such as the National Security Strategy and National Drug Control Strategy by ensuring that the transportation system is secure and available for defense mobility and that our borders are safe from illegal intrusion.

The FTA and the FHWA developed their own strategic plans, along with the other U.S. DOT operating agencies. The ITS Integration Component established by TEA-21 is an integral part of the U.S. DOT, the FTA and the FHWA Strategic Plans. ITS deployment generally, and integrated ITS deployment specifically, will serve as a key part of the foundation that will permit the U.S. DOT's goals to be achieved.

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Pub. L. No. 102-240, 105 Stat. 1914 (1991), taught us how ITS can make the most of existing infrastructure and further the intermodal goals set forth by the tenets of ISTEA. Results from research and operational tests have demonstrated that deployment of intelligent transportation infrastructure provides cost-effective increases in mobility, increased safety, and enhanced quality of travel. Based on these results, in January 1996 the U.S. DOT established a national goal to deploy integrated intelligent transportation infrastructure across the United States within the next decade.

The National ITS Program under ISTEA was primarily a research and testing program. While ITS research and testing is continued under TEA-21, the new ITS Integration Component of the ITS Deployment Program is primarily aimed at integrating ITS components in metropolitan areas, and deploying and integrating ITS components in rural areas. Some of the lessons learned during the ISTEA era, such as the fact that ITS technologies work, and more importantly, that integrated ITS works better, have formed the basic shape of the ITS Integration Component. However, there is a clear need for ITS planning and stakeholder buy-in at the regional level -- that is, planning for ITS within the context of larger transportation plans and programs. There is also a need for an up-front commitment to long-term operations and

maintenance of ITS components and their integration. This points to programming future financial resources through traditional or innovative financing mechanisms concurrent with project approvals. There is a strong need to have well-informed leaders and decision-makers who are aware of the operational benefits that ITS offers and who can translate that awareness into transportation investment decisions. And, there is a need for a highly trained workforce in order for ITS to become a reality.

2. Goal and Objectives of the ITS Integration Component of the ITS Deployment Program

The goal of the ITS Integration Component of the ITS Deployment Program is to accelerate the *integration* and *interoperability* of Intelligent Transportation Systems across system, jurisdictional and modal boundaries in metropolitan, regional, Statewide and rural areas in order to: improve transportation mobility; promote safety (including safe freight movement); improve traffic flow (including the flow of intermodal freight at ports of entry); improve transit operations, reduce emissions of air pollutants; improve traveler information; promote tourism; enhance alternative transportation modes; and expand existing ITS projects.

Through this program, the U.S. DOT expects to create a critical mass of integrated ITS deployments that provides the necessary incentives for industry consensus standards; provide incentive for the "institutional integration" necessary to support initial electronic information exchange; provide incentive for ITS deployment to conform with the National ITS Architecture; and leverage local funding for ITS integration in metropolitan, regional, Statewide, and rural areas. U.S. DOT does not intend to usurp activities normally performed by the private sector.

Deployment of integrated ITS in metropolitan areas is at a critical juncture. While ITS components are being deployed across the country, many of them are taking place individually and are electronically reinforcing the current fragmented way of doing business, i.e., isolated by mode and jurisdiction, rather than realizing the promise of electronic integration across jurisdictions and systems. The ITS Integration Component provides a mechanism for such integration.

Rural areas are just beginning to see the deployment of ITS technologies that address rural transportation needs (e.g., Mayday, weather and road condition information, etc.). At the State level, a number of States are in the initial stages of developing systems that provide for Statewide or regional operations. The lack of existing systems that were deployed individually in Statewide and rural areas facilitates integrated ITS deployment. The ITS Integration Component will be applied in rural and Statewide areas in a manner that assures integration.

This program also provides a mechanism to support the application of the National ITS Architecture in the development of regional architectures. These regional architectures can serve as the frameworks for ensuring that future deployments are developed in an integrated manner. This program can also assist in implementing ITS standards by providing opportunities to fully test and implement these standards, thereby contributing to the critical demand for standards needed to develop a viable private sector product market.

Project participation is encouraged by partnerships representing large or small

metropolitan areas, regional areas, rural areas, Statewide or multi-State regions. Participation by the private sector is strongly encouraged, but not required. The proposed projects should meet documented local needs, focus on the use of currently available technologies, and strengthen institutional ties across jurisdictions, modes, and operating agencies.

3. Requirements for Participation

As directed by TEA-21, Section 5208, Intelligent Transportation Systems Integration Program:

> *The Secretary shall conduct a comprehensive program to accelerate the integration and interoperability of intelligent transportation systems in metropolitan and rural areas*.

Section 5208 of TEA-21 further states that priority should be given to integration projects that:

1. Contribute to national deployment goals and objectives outlined in the National ITS Program Plan;
2. Demonstrate a strong commitment to cooperation among agencies, jurisdictions, and the private sector, as evidenced by signed memoranda of understanding that clearly define the responsibilities and relations of all parties to a partnership arrangement, including institutional relationships and financial agreements needed to support integrated deployment;
3. Encourage private sector involvement and financial commitment, to the maximum extent practicable, through innovative financial arrangements, especially public-private partnerships, including arrangements that generate revenue to offset public investment costs;
4. Demonstrate commitment to a comprehensive plan of fully integrated Intelligent Transportation System deployment in accordance with the National ITS Architecture and standards and protocols;
5. Are part of approved plans and programs developed under applicable Statewide and metropolitan transportation planning processes and applicable State air quality implementation plans, as appropriate, at the time at which Federal ITS funds are sought;
6. Minimize the relative percentage and amount of Federal ITS funding to total project costs;
7. Ensure continued, long-term operations and maintenance without continued reliance on Federal ITS funding as indicated by documented evidence of fiscal capacity and commitment from anticipated public and/or private sources;
8. Demonstrate technical capacity for effective operations and maintenance or commitment to acquiring necessary skills;
9. Mitigate any adverse impacts on bicycle and pedestrian transportation and safety; or
10. In the case of a rural area, meet other safety, mobility, geographic and regional diversity, or economic development criteria.

3.1 Funding

Federal funding authority is derived from Section 5001(a)(6) of TEA-21. For metropolitan area projects, funding shall be used for activities necessary to integrate ITS infrastructure components that are either deployed (existing systems) or will be deployed with other sources of funds. The regional or metropolitan-wide integration of a single ITS infrastructure element across multiple jurisdictional or modal boundaries is acceptable.

For projects outside of metropolitan areas (that is, in rural areas), funding may be used for integration purposes as well as for limited deployment of ITS infrastructure components to support integration. Those projects that are outside metropolitan areas are generally defined as those projects in areas outside the planning jurisdiction of Metropolitan Planning Organizations (MPO). Prior to authorization of the proposed integration project by FWHA/FTA, the project must be included in the appropriate transportation planning documents (TIP, STIP).

3.1.1 Eligible Activities.

Federal ITS funding for the ITS Integration Component of the ITS Deployment Program may be used to support:

1. System design and integration of existing ITS infrastructure components: examples include traffic signal control, freeway management, incident management, transit management, electronic fare payment, highway-rail intersection control, emergency services management, traveler information services, paratransit and demand-responsive transit, and electronic toll collection;
2. Creation of a regional multi-modal transportation information system that would support public sector transportation management needs;
3. Creation of a data repository of real-time, multi-modal traveler information for dissemination to the traveling public, businesses and commercial vehicle operators through a variety of delivery mechanisms, and possibly as a value-added service by the private sector;
4. Creation of a process to use ITS systems to automatically capture or archive operational transportation data for later use in planning, evaluation, performance monitoring, or other similar purposes;
5. Deployment of system components that support integration of systems outside of metropolitan areas; and/or
6. Development of a regional or project ITS architecture to support integrated ITS deployment.

In general, the use of ITS Integration Component funds for the development of training materials for use outside of the integration project is **not** acceptable.

3.1.1.1 Examples of Deployment Program Integration Projects

Appendix A contains a list of examples of projects accepted for ITS Integration Component funding. This list was compiled from the project descriptions for projects obligated in FY00. The list is not intended to be limiting, but to provide FY01 Congressionally Designated Areas with information on the types of integration projects that meet the criteria in TEA-21.

3.1.1.2 Additional Information on Eligible Integration Activities

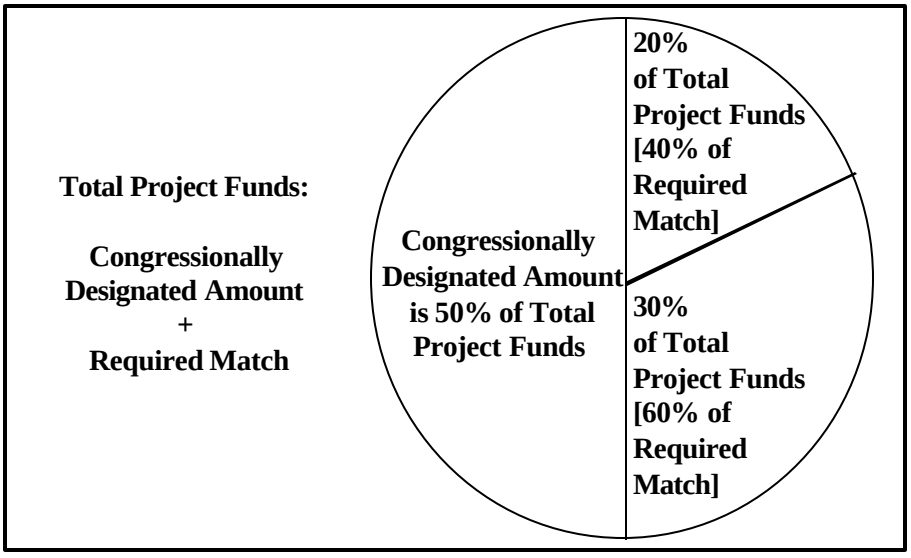
Appendix B contains additional information on specific integration activities that are eligible for funding. The details reflect discussions and clarifications that occurred during the review of the FY00 project descriptions.

3.1.2 Matching Share / Cost Sharing

Based on the requirements of TEA-21, Section 5208(f), Federal Share, participants in the ITS Integration Component of the ITS Deployment Program must provide at least fifty percent (50%) of the total cost of the Project. For determining the amount of match required, the total cost of the Project is the Congressionally Designated amount plus the required 50% matching share. The required 50% matching share may come from public or private sector sources. In general, only funds expended after the authorization date of the ITS Integration Component project will be eligible for consideration as match.

A minimum of twenty percent (20%) of the total cost of the project (forty percent of the required matching share) must be from non-federally derived funding sources and must consist of either cash, substantial equipment or facilities contributions that are wholly utilized as an integral part of the project, or personnel services dedicated full-time to the proposed integrated deployment for a substantial period, as long as such personnel are not otherwise supported with Federal funds. The non-Federally derived funding may come from State, local government, or private sector partners.

The remaining thirty percent (30%) of the total cost of the Project (sixty percent of the required matching share) may come from a variety of funding sources and may include the value of Federally-supported projects directly associated with the proposed integration project. The match to Federal funds included in such Federally-supported projects are not eligible for satisfying the 20% minimum match requirement. Note that funding identified to support continued operations, maintenance and management of the system beyond the expected completion date of the Project is not eligible as part of the partnership's cost-share contribution.



In an ITS partnership, as with other U.S. DOT cost-sharing grants, it is inappropriate for a fee to be included in the proposed budget as part of a partner's contribution to the project. This does not prohibit appropriate fee payments to vendors or others that may provide goods or services to the partnership. It also does not prohibit business relationships with the private sector that result in revenues from the sale or provision of ITS products or services. U.S. DOT regulations require grant income to be deducted from expenditures before billing. Given prior approval, grant income can be used either as match or cost share.

Contractors under a grant may earn income from the activities carried out under the contract in addition to the amounts earned from the party awarding the contract. No costs of services or property supported by this income may count toward satisfying a cost sharing or matching requirement unless other provisions of the grant agreement expressly permit this kind of income to be used to meet the requirement.

The U.S. DOT and the Comptroller General of the United States have the right to access all documents pertaining to the use of Federal ITS funds and non-Federal contributions. Non-Federal partners must maintain sufficient documentation during final negotiations and during the life of the ITS Integration Component of the ITS Deployment Program to substantiate these costs. Such items as direct labor, fringe benefits, material costs, consultant costs, public involvement costs, subcontractor costs, and travel costs should be included in that documentation.

3.1.2.1 Additional Information on Eligible Funding Activities

Appendix C contains additional information on eligible funding activities concerning acceptable match. The details reflect discussions and clarifications that occurred during the review of the FY00 project descriptions.

3.2 Architecture

The project proposal shall identify how ITS architecture development activities will be incorporated into the project. Regional ITS architecture requirements depend upon the existence of a regional ITS architecture and the designated funding level from this program. Project level ITS architecture requirements depend on the existence of a regional ITS architecture.

3.2.1 Regional and Project Level ITS Architecture Requirements

A. *If* a regional ITS architecture exists (or is currently under development), *then* (1) the project description shall identify which parts of the regional ITS architecture the proposed project will implement and (2) the project will be designed in accordance with the regional ITS architecture. The regional ITS architecture shall be updated, as necessary, to reflect the specifics of the proposed project.

B. *If* a regional ITS architecture does not exist (and is not currently under development)

and the proposed project is to receive more than $300K in funding (after takedowns) from this program in FY01, *then* (1) a project level ITS architecture shall be developed and the project will be designed in accordance with the project level architecture and (2) the development of a regional ITS architecture shall be initiated within one year of obligation of funds. Funding from this program may be used for these project level and regional ITS architecture development activities. The National ITS Architecture shall be used as a resource in the development of the project level and regional ITS architecture.

C.) *If* a regional ITS architecture does not exist and the project is to receive less than $300K in funding (after takedowns) from this program in FY01, *then* a project level ITS architecture shall be developed and the project will be designed in accordance with the project level ITS architecture. Initiation of regional ITS architecture development activities is not required at this point but is strongly encouraged.

3.2.2 Regional and Project Level ITS Architectures

A regional ITS architecture shall be based on a systems engineering analysis and shall include, at a minimum, the following:

- A description of the region;
- Identification of participating agencies and other stakeholders;
- An operational concept that identifies the roles and responsibilities of participating agencies and stakeholders in the operation and implementation of the systems included in the regional ITS architecture;
- Any agreements (existing or new) required for operations, including at a minimum those affecting ITS project interoperability, utilization of ITS related standards, and the operation of the projects identified in the regional ITS architecture;
- System functional requirements;
- Interface requirements and information exchanges with planned and existing systems and subsystems (for example, subsystems and architecture flows as defined in the National ITS Architecture);
- Identification of ITS standards supporting regional and national interoperability;
- The sequence of projects required for implementation.

A project level ITS architecture is a framework that identifies the institutional agreement and technical integration necessary to interface a major ITS project with other ITS projects and systems. Project level ITS architectures shall be based on a systems engineering analysis.

3.2.3 Systems Engineering Analysis

All projects shall be based on a systems engineering analysis and the analysis should be on a scale commensurate with the project scope. The systems engineering analysis shall include, at a minimum:

- Identification of portions of the regional ITS architecture being implemented (or if a

regional ITS architecture does not exist, the applicable portions of the National ITS Architecture).
- Identification of participating agencies' roles and responsibilities;
- Requirements definitions;
- Analysis of alternative system configurations and technology options to meet requirements;
- Procurement options;
- Identification of applicable ITS standards and testing procedures;
- Procedures and resources necessary for operations and management of the system.

3.3 ITS Standards and Standards Testing

ITS standards are consensus standards that specify how different technologies, products, and components interconnect so they can be used within a consistent framework, which is the National ITS Architecture. To expedite the development and deployment of interoperable ITS systems and services, the US DOT supports standards activities in areas that have significant public benefit.

3.3.1 Standards Identification

The project proposal shall identify how ITS standards will be incorporated into the project. First, the proposed project shall consider all appropriate Standards Development Organization (SDO) approved ITS Standards for use for the proposed ITS project, including the following:

- Common Incident Management Message Sets
- IEEE P1455 - Standard For Message Sets for Vehicle to Roadside Communications
- J1708 - Serial Data Communications between Microcomputer Systems in Heavy-Duty Vehicle Applications
- J1746- ISP to Vehicle Location Referencing Standard
- J2313- On-Board Land Vehicle Mayday Reporting Interface
- J2353- Data Dictionary for ATIS
- J2354- Message Set for ATIS
- J2364- Standard for Navigation and Route Guidance Function Accessibility
- J2369- Standard for ATIS Message Sets Delivered Over Bandwidth Restricted Media
- Message Set for External TMC Communication
- NTCIP Center to Center - DATEX-ASN (Parts 1 and 2)
- NTCIP Class B Profile
- NTCIP File Transfer Protocol Application Profile
- NTCIP Global Objects
- NTCIP Internet (TCP/IP and UDP/IP) Transport Profile
- NTCIP Object Definitions for Actuated Signal Controller Units
- NTCIP Object Definitions for CCTV Camera Control

- NTCIP Object Definitions for Dynamic Message Signs
- NTCIP Object Definitions for Environmental Sensor Systems
- NTCIP Object Definitions for Ramp Meter Control
- NTCIP Point to Multi-Point Protocol using RS-232 Subnetwork Profile
- NTCIP Simple Transportation Management Framework
- NTCIP Simple Transportation Management Framework Application Profile
- NTCIP Trivial File Transfer Protocol Application Profile
- Specification for DSRC Data Link Layer: Media Access and Logical Link Control
- Specification for DSRC Physical Layer using microwave in the 902-928 MHz band
- TCIP - Common Public Transportation Objects Business Area Standard
- TCIP - Framework Document
- TCIP - Incident Management Business Area Standard
- TCIP - Passenger Information Business Area Standard
- TCIP - Scheduling/Runcutting Business Area Standard
- TCIP - Spatial Representation Business Area Standard
- TCIP - Standard on Control Center Objects
- TCIP - Standard on Fare Collection Objects
- TCIP - Standard on On-Board Objects
- Traffic Management Data Dictionary

Second, the project description shall identify the ITS standards that are applicable and will be considered in the project design. If an applicable ITS standard will not be considered, the project description shall provide justification as to why the standard will not be considered. Third, the project description shall describe the process that will be used to ensure that the considered standards will be incorporated in the project design, as appropriate.

The US DOT recognizes that the deployment of devices and systems utilizing these standards may be one of the initial efforts to use these standards. In general, the US DOT will not accept additional cost of infrastructure equipment or risks associated with being one of the initial deployments "compliant" to the identified standard(s) as a legitimate rationale for not using the standard. Such rationale will generally not be acceptable as the overall risk associated with the deployment of these devices and systems will decrease as more vendors move to support the standards, thereby creating a more competitive market for these products and reduce the cost. The cost of the infrastructure will also decrease as deployment activities increase.

Additional information on these and other ITS standards can be found on the US DOT ITS website at http://www.its.dot.gov/standard/standard.htm. To assist the project in identifying the appropriate standards to consider, Section 4.4 contains a list that relates infrastructure components to the applicable standards that must be considered.

3.3.2 Standards Testing

Each FY01 Integration Component project will be analyzed as a potential test site for the U.S. DOT sponsored ITS Standards Testing Program that was initiated in FY99. Each

project will be evaluated based on a set of established criteria to find ITS field sites that can be used in this ITS Standards Testing Program. The specific testing program will be tailored to the site and may include observation, documentation, and data analysis by the test team.

The project proposal shall explicitly state that the proposed integration project will cooperate with this analysis and be prepared to serve as an ITS standards testing site if selected to participate in the testing program. Effort will be made to minimize testing impact on the project. If selected to participate in the testing program, the project partners should be prepared to provide staff support to the test team. Any cooperative arrangement between an FY01 Integration Component project and the ITS testing program will be documented and agreed to by both parties in a Memorandum Of Understanding that will be developed and signed by both parties.

3.4 Evaluation of Benefits

Evaluation is the reasoned consideration of how well project goals and objectives are being achieved. The principal purpose of evaluation is to manage changes in project implementation in ways that will ultimately result in the project achieving or exceeding its goals and objectives. Project partnerships are expected to approach evaluation as an integral part of project planning, design, construction and testing. Such an approach to the evaluation process will serve to improve project performance and yield significant benefits to project partners.

At the beginning of project planning, project partners shall identify the major goal areas where the project is expected to yield benefits. Once identified, these goal areas can be associated with quantifiable outcomes, or measures to provide useful metrics. A discussion of the association of goal areas and measures can be found in the *TEA-21 Evaluation Guidelines* document on the ITS JPO website at:
http://www.its.dot.gov/eval/ResourceGuide/EvalGuidelines_EvaluationGuidelines.htm

During the second quarter of FY 2001, the ITS Joint Program Office plans to deploy a web-based system designed specifically for use by evaluation managers at Congressionally Designated projects. The purpose of the system is to enable those members of project partnership teams responsible for conducting self-evaluations to track and report status on the progress of their evaluation products and their cost accounting activities. The system will also enable responsible parties to submit electronic copies of evaluation deliverables and cost reports as described in the Sections 3.4.2 and 3.4.3 below. The system is intended to be an internal resource; no public access to this system is contemplated. Subsequent to validating project contacts, instructions on system access and use will be transmitted.

3.4.1. Independent Evaluation

The U.S. DOT may conduct (with non-project funds) independent evaluations of the benefits resulting from specific projects proposed for funding under the ITS Integration Component of the ITS Deployment Program. The decision to evaluate the benefits of a specific project will be made on a case-by-case basis, reflecting the information needs of the U.S. DOT.

Independent evaluations will be conducted in accordance with the guidelines, provisions, and evaluation funding levels as directed by TEA-21 and as reflected in the *TEA-21 Evaluation Guidelines*. The project proposal shall explicitly state that if selected for independent evaluations, the proposed integration project shall cooperate with the independent evaluators and participate in evaluation planning and progress review meetings to ensure a mutually acceptable, successful implementation of the independent evaluation.

3.4.2. Local Evaluations

In the interests of sound management practice, each project shall perform a Local Evaluation funded from project or other resources.

The measures discussed in the *TEA-21 Evaluation Guidelines* (e.g., reduction in numbers of crashes associated with the goal area of safety) comprise the framework of benefits anticipated to result from achieving project goals. As implementation proceeds, the evaluation is expected to address key aspects of the project such as (but not limited to):

- System and subsystem performance;
- Resolution of institutional issues, especially those associated with contracting procedures, liability, privacy, regulatory and intellectual property;
- Implications of achieving consistency with the National ITS Architecture;
- Consumer acceptance;
- Life-cycle costs, especially implications of starting up operations and maintenance activities.

The project proposal shall explicitly state that the proposed integration project will perform a Local Evaluation funded from project resources. Based on the project's evaluation strategy, two or more of the following evaluation products/activities shall be undertaken:

- Evaluate the institutional issues associated with achieving cooperation among public sector agencies, and document how they were overcome.
- Provide a brief lessons learned report on the technical and institutional issues encountered in integrating ITS components.
- Provide an evaluation report on the lessons learned in employing innovative financing or procurement and/or public-private partnering techniques.
- Produce a lessons learned report on the experiences, challenges and approaches used in achieving consistency with the National ITS Architecture and/or implementation of ITS standards.
- Produce a case study on the planning process used to achieve integration into an approved plan and program developed under an area-wide (statewide and/or metropolitan) planning process which also complies with applicable state air quality implementation plans.
- Provide the appropriate metropolitan planning process with data generated by ITS technologies and services, and provide a report on plans or intentions for archiving the data and using it.

The project proposal shall explicitly agree to submit a Local Evaluation Report

documenting the lessons learned in meeting project goals and objectives. The report shall address those key aspects of the project evaluated, and to the extent possible, assess impacts on the relevant outcome measures. The report documenting Local Evaluation activities should contain an executive summary. Where regional ITS architectures are developed, the U.S. DOT reserves the right to share them with other locations as examples of good practice.

3.4.3 Cost Accounting Data

To help satisfy the need for experience-based ITS deployment knowledge to support future deployments and document impacts on the transportation system, the proposed project is required to provide cost accounting data. Both operations and maintenance start up and life cycle costs are of particular importance. The project proposal shall explicitly agree to the collection, documentation, and annual reporting of cost accounting data, and specify the ways the project will collect these data. For assistance in collecting and documenting cost information, please refer to the *Cost Data Collection Guidelines for ITS* which may be viewed by accessing the Evaluation home page at http://www.its.dot.gov/eval/eval.htm then clicking on "ITS Evaluation Guidelines" link, and finally clicking on "Cost Data Collection Guidelines."

4. Project Descriptions

A project description is required for participation in the ITS Integration Component of the ITS Deployment Program. Project descriptions must be coordinated and submitted by the State Department of Transportation (DOT) and/or other appropriate jurisdiction. They should be submitted to the Federal Highway Administration (FHWA) Division Office and the Federal Transit Administration (FTA) Regional Office as soon as possible, but no later than February 28, 2001 in order to ensure the timely award of funds.

Project descriptions shall be submitted in electronic form.

The project description shall consist of five parts: a cover sheet, a table of contents, a short Executive Summary, a Project Proposal (that contains a Technical Approach, a Schedule and a Financial Plan), and a list of Participating Agencies and Organizations.

Attachment 2: Project Description Format to the Notification Memo (file name: Att2_Project_Description.wpd) contains the format and templates to be used in creating the Project Description. The purpose of including this format and templates is to reduce the amount of unneeded information, thereby shortening both the time needed to create the project description and the time needed to review it. The remaining subsections to Section 4 describe the information required in the Project Description.

4.1. Proposal Cover Sheet

The cover sheet for the project proposal shall use the Project Identification Number and Name (found in column 2 of Attachment 1 to the Notification Memo), Project Location, Amount of FY01 Congressionally Designated Amount, Submitting Agency, and a Project Contact.

4.2. Table of Contents

The table of contents shall identify the topics addressed by the Project Description.

4.3. Executive Summary

The Executive Summary shall be a brief summary of the key information contained in the Technical Approach, Schedule, Financial Approach, and Participating Agencies and Organizations. It shall briefly state the need, identify the infrastructure elements that will be integrated, identify the lead agency and list the partners participating in the project, summarize the project cost components, and list key dates including the start date, expected completion date, and dates for significant milestones. (Expected length: up to three pages.)

4.4. Project Proposal

The Project Proposal shall contain the following sections: Technical Approach, Schedule, Financial Plan, and Participating Agencies and Organizations.

The *Technical Approach* shall contain the following sections and information.

Background: Introduce the project by providing a background (or context) for the proposed integration project, identifying the need for the proposed integration project, and estimating the proposed integration project's expected impact. (Expected length: up to two pages.)

Project Description: Describe the proposed integration project, including infrastructure components that are already in place, or will be deployed as part of another project, or will be deployed as part of the proposed project. The project description shall address the potential for transit-"highway" and transportation-public safety integration. (Expected length: up to five pages.)

Rural Projects: For Rural Projects only, identify the ITS infrastructure components that will be deployed and integrated. Rural areas are generally defined as those areas outside the planning jurisdiction of Metropolitan Planning Organizations (MPO). (Expected length: up to three pages.)

Infrastructure Components to be Integrated: Identify ITS Infrastructure components that will be integrated across system, jurisdictional, or modal boundaries. ITS infrastructure components include, but are not limited to: traffic signal control, freeway management, transit management, incident management, electronic fare payment, electronic toll collection, highway-rail intersection control, emergency services management, paratransit and demand-responsive transit, and regional multi-modal traveler information services. A project that integrates transit or public safety components with other transportation management or real-time, multi-modal traveler information systems is encouraged. A template is included in *Attachment 2: Project Description Format* (file name: Att2_Project_Description.wpd), and should be used to enter

this information. (Expected length: one to two pages.)

Integration Approach: Describe how these systems will be integrated and the technology that will be deployed with project funding to integrate them. (Expected length: up to three pages.)

Architecture: Explicitly state that the project agrees to follow the architecture approach included in Section 3.2 of this Guidance, indicate which architecture requirements in Section 3.2.1 the project must fulfill, and discuss how the requirements will be incorporated into the project. A template is included in *Attachment 2: Project Description Format* (file name: Att2_Project_Description.wpd), and should be used to enter this information. (Expected length: up to three pages.)

ITS Standards and Standards Testing: Identify the project contact for standards and standards testing. Explicitly state that the proposed integration project agrees to:

- Follow the ITS Standards Testing approach included in Section 3.3 of the Guidance
- Cooperate with the analysis of the project as a potential test site for the US DOT sponsored ITS Standards Testing Program
- Be prepared to serve as an ITS standards testing site if selected to participate in the testing program.

Using the list of SDO approved ITS Standards provided below, identify all of the ITS Standards that are applicable and will be considered in the project design. If an applicable listed standard will not be considered, provide justification as to why the standard will not be considered. Describe the process that will be used to ensure that the considered standards will be incorporated in the project design, as appropriate. (Expected length: up to four pages.)

LEGEND

AM = Arterial Management
EF = Electronic Fare Payment
ET = Electronic Toll Collection
EM = Emergency Management
FM = Freeway Management
IM = Incident Management
TM = Transit Management
TI = Traveler Information

STANDARD	AM	EF	ET	EM	FM	IM	TM	TI
1. Common Incident Management Message Sets				X		X		

STANDARD	AM	EF	ET	EM	FM	IM	TM	TI
2. IEEE P1455 - Standard For Message Sets for Vehicle to Roadside Communications	X		X		X			
3. J1708 - Serial Data Communications between Microcomputer Systems in Heavy-Duty Vehicle Applications		X						
4. J1746- ISP to Vehicle Location Referencing Standard	X			X	X	X	X	X
5. J2313- On-Board Land Vehicle Mayday Reporting Interface				X		X		
6. J2353- Data Dictionary for ATIS						X	X	X
7. J2354- Message Set for ATIS						X	X	X
8. J2364- Standard for Navigation and Route Guidance Function Accessibility								X
9. J2369- Standard for ATIS Message Sets Delivered Over Bandwidth Restricted Media								X
10. Message Set for External TMC Communication	X			X	X	X		
11. NTCIP Center to Center - DATEX-ASN (Parts 1 and 2)	X			X	X	X	X	X
12. NTCIP Class B Profile	X				X	X		
13. NTCIP File Transfer Protocol Application Profile	X			X	X	X		X
14. NTCIP Global Objects	X			X	X	X		
15. NTCIP Internet (TCP/IP and UDP/IP) Transport Profile	X			X	X	X	X	X
16. NTCIP Object Definitions for Actuated Signal Controller Units	X				X	X		
17. NTCIP Object Definitions for CCTV Camera Control	X				X	X		
18. NTCIP Object Definitions for Dynamic Message Signs	X				X	X		
19. NTCIP Object Definitions for Environmental Sensor Systems	X				X			
20. NTCIP Object Definitions for Ramp Meter Control	X				X	X		
21. NTCIP Point to Multi-Point Protocol using RS-232 Subnetwork Profile	X				X		X	
22. NTCIP Simple Transportation Management Framework	X				X	X		
23. NTCIP Simple Transportation Management Framework Application Profile	X				X	X		
24. NTCIP Trivial File Transfer Protocol Application Profile	X			X	X	X		X
25. Specification for DSRC Data Link Layer: Media Access and Logical Link Control		X	X					
26. Specification for DSRC Physical Layer using microwave in the 902-928 MHz band		X	X					
27. TCIP - Common Public Transportation Objects Business Area Standard							X	

STANDARD	AM	EF	ET	EM	FM	IM	TM	TI
28. TCIP - Framework Document							X	
29. TCIP - Incident Management Business Area Standard						X	X	
30. TCIP - Passenger Information Business Area Standard							X	
31. TCIP - Scheduling/Runcutting Business Area Standard							X	
32. TCIP - Spatial Representation Business Area Standard							X	
33. TCIP - Standard on Control Center Objects							X	
34. TCIP - Standard on Fare Collection Objects		X					X	
35. TCIP - Standard on On-Board Objects							X	
36. Traffic Management Data Dictionary	X			X	X	X	X	

Evaluation of Benefits: Identify the project contact for the evaluation of benefits. Explicitly state that the proposed integration project agrees to participate in Evaluation of Benefits as described under Section 3.4 of the Guidance. Explicitly state that if the proposed integration project is selected for independent evaluations, the proposed integration project will cooperate with the independent evaluators and participate in evaluation planning and progress review meetings to ensure a mutually acceptable, successful implementation of the independent evaluation. Explicitly state that the proposed integration project agrees to perform a local evaluation funded from Project resources. Explicitly state that the Project agrees to submit a Local Evaluation Report documenting the lessons learned in meeting project goals and objectives. Explicitly state that the Project agrees to collect, document, and annually report cost accounting data, and specify the ways the project will collect these data. Identify the evaluation products/activities that will be undertaken. A template is included in *Attachment 2: Project Description Format* (file name: Att2_Project_Description.wpd), and should be used to enter this information. (Expected length: up to two pages.)

The *Project Schedule* shall list key dates, including the

Expected start date: Enter the expected start date of the proposed integration project. The expected start date should be within nine months of the final obligation date, that is, September 30, 2001.

Estimated completion date: Using the expected start date, enter the estimated completion date.

Estimated dates for all milestones: Enter milestones and their dates.

The *Financial Plan* shall contain the following information.

The Congressionally Designated Amount: The Congressionally Designated amount (adjusted total available) shall be included. For those projects that are using all or a portion of the funds as part of a rural project, the Congressionally Designated funds being applied to the rural project shall be included.

The 20% (minimum) match: The following information concerning the minimum 20% match shall be included: source of funds; the type of funds (cash, equipment or facilities, or personnel services); the major integration activities or rural infrastructure deployment supported with these funds; and the amount of funds.

The 30% (remaining) match: The following information concerning the remaining 30% match shall be included: source of funds; the type of funds (cash, equipment or facilities, or personnel services); the major integration activities, rural infrastructure deployment, or infrastructure deployment supported with these funds; and the amount of funds.

A template is included in *Attachment 2: Project Description Format* (file name: Att2_Project_Description.wpd), and should be used to enter this information

The following two pages show an example of a completed template. The example Project is for the integration of a state owned Traffic Operations Center (TOC) with a city owned TOC. Three infrastructure deployment projects are included as funding match in the Project are the deployment of: Dynamic Message Signs (DMS) by the state, a city owned Closed Circuit Television (CCTV) system, and fiber optic cable between the state TOC and the DMS.

Congressionally Designated Amount: $ 786,421

Amount Used for Integration Activities: $ 786,421

Amount Used for Rural Infrastructure Deployment: $ 0

20% Minimum Match Amount: $ 314,568

A 20% minimum of the total cost of the project must be from non-Federally derived funding sources, as statutorily required, and must consist of either cash, substantial equipment or facilities contributions that are wholly utilized as an integral part of the project, or personnel services dedicated full-time to the proposed integrated deployment for a substantial period, as long as such personnel are not otherwise supported with Federal funds.

Identify Non-Federal Funding Source	**Identify Type of Funds** (cash, equipment or facilities, or full-time personnel services)	**Identify Major: (1) Integration Activities or (2) Rural Infrastructure Deployment Supported with These Funds**	**Specify Amount of Funding** ($)
State Funds	Cash	(1) H/W and S/W for integration of state and city TOCs	$214,568
City Funds	Personnel Services	(1) Systems Integration Manager	$100,000

Note: Personnel identified for 20% Match will have the following responsibilities: The Systems Integration Manager will be responsible for developing identifying requirement, contracting for H/W and S/W development, and coordination and oversight of interface development and acceptance testing.

Remaining 30% Match Amount $471,853

A 30% (remaining) of the total cost of the Project may come from a variety of funding sources and may include the value of Federally-supported projects directly associated with the proposed integration project.

Identify Funding Source	**Identify Type of Funds** (cash, equipment or facilities, or personnel services)	**Identify Major: (1) Integration Activities, (2) Rural Infrastructure Deployment, or (3) Infrastructure Deployment Supporting Integration Supported with These Funds**	**Specify Amount of Funding** ($)
CMAQ	Equipment	(3)Closed Circuit Television (CCTV) system	$200,000
Federal Aid	Equipment	(1)Dynamic Message Signs	$171,853
State Funds	Cash	(3) Fiber cable from TOC to DMS	$100,000

Note: Personnel identified for 30% Match will have the following responsibilities:

Participating Agencies and Organizations shall be identified. The proposed partnership should demonstrate a strong commitment to cooperation among agencies, jurisdictions, and, as appropriate, the private sector. Public involvement activities are encouraged to help increase ITS awareness among citizen and private interest groups, and to make sure that all community concerns are accounted for in the deployment process.

The Project Description shall contain a list of the participating agencies and organizations in the proposed integration project, the roles and responsibilities of each participant, and the name of a contact representing the participating agency or organization. The lead agency or organization and the agency or organization responsible for the continued, long-term operations and maintenance of the proposed integration project shall be identified in the list. This list shall be used to develop the MOU that shall be signed by each participating agency or organization prior to the execution of the grant between the FHWA and the partnership.

Appendix A

Examples of Projects Accepted for ITS Integration Component Funding During FY2000

A. Currently, traveler information is not provided on a large scale in the region. Infrastructure components in the region that can provide static or real-time information will be integrated within a traveler information the system. The public will be able to access general information for free.

B. The project will Implement a wireless communications network that serves the core mobile communication functional needs of transportation, law enforcement, fire, and EMS in the Region.

C. This is a multi-phase project beginning with the development of a Regional ITS Architecture. The Regional ITS Architecture will serve as a template for all future ITS project development and design. The second portion of this project will be the design and construction of a fiber optic communications backbone to serve the various ITS components. A third portion of the project will be the expansion of the existing Information Management System (IMS). The expanded IMS will be integrated with the ATMS by use of the fiber optic network.

D. A Regional ITS Architecture will be developed, as well as a regional Traffic Operations Center as a focal point for Traveler Subsystems, Center Subsystems, Roadside Subsystems, and Vehicle Subsystems. The ITS Integration and Functional Requirements Project will address ITS integration and coordination issues involving present Emergency Management, Transit Management, Traffic Management, Freeway Management, CVISN and CVO Management, Traveler Information and other legacy and proposed ITS Systems.

E. The coordinated transit system will involve a merger of public and private transit resources into a regional, fully integrated, centrally dispatched operation utilizing Automatic Vehicle Location (AVL), Advanced Traveler Information (ATI) and Computer Aided Dispatching (CAD).

F. The project will support development of a multi-agency Transportation Operations Center (TOC), per the Region's Strategic Plan. Initially, the TOC will: serve as the Traffic Control Center (TCC) for the County maintained Computerized Signal System; serve as a central dispatch center for State maintenance activities including the monitoring of the State's RWIS system: and serve as the central operations point for the developing Freeway Management System in the region.

G. The regional operations coordination project will integrate operations across jurisdictions, agencies, modes, and facility types for the region. It has two phases: Planning and Integration. Most of the funds requested by this application will be used for Phase 1 tasks. The project includes the development of logical and physical architectures for regional operations coordination.

H. The integration project is a public-private partnership that will deliver information to travelers in and around the metropolitan area. This service will collect data from multiple sources (both public and private) fuse the appropriate data elements, and will distribute the information through various media outlets. A comprehensive ITS Outreach Program is part of the project.

I. The funding will be used for the following specific components: Integration of the Arterial Management System component with the Freeway Management System component; ADUS implementation and integration; and Interagency integration for information sharing (this refers to the networking hardware and software to implement the required interconnection among the participating agencies).

J. The project will integrate Incident Management and Freeway Management systems by providing the means to exchange information and manage traffic electronically and more efficiently.

K. The project will integrate the following subsystems: Traffic Signal Control; Freeway/Incident management; Emergency Services Management; and Regional Multi-Modal Traveler Information Services. This integration will meet the needs of the various agencies to share information and manage their systems in a seamless manner.

L. The project will provide traffic/transit/emergency service integration, as well as initiate an institutional integration that will serve as a model for similar projects in other corridors.

M. Under this project, three centers (Transportation Management Center (TMC), the Signal System Traffic Operations Center (TOC), and the Transit Center) will be interconnected to provide for improved information sharing.

N. The project will provide integration between the state DOT, cities and counties, and will primarily comprise the integration of traffic signal control, freeway management, and incident management functional areas.

O. The project will focus on the integration of traffic signals, traffic monitoring cameras, system detection, variable message signs, roadway weather information systems, and automatic vehicle locating systems statewide.

P. The project will integrate vehicle detection stations, closed circuit television cameras, and dynamic message systems with many of our local partners so that we can exchange information and manage traffic more effectively and efficiently. This project includes the procurement of system hardware for the traffic operations center, and the development of integrated software for transit in the metropolitan area.

Q. Integration of an automated permitting function for commercial vehicles will enable commercial vehicle operators to obtain automated route information and permits for oversize and overweight loads throughout the highway system, enabling improved coordination of agencies involved in managing congestion and the routing of oversize and overweight vehicles. A digital roadway network model will provide a fast, reliable determination of all conditions and events along the vehicle trip path.

R. The purpose of the Regional Traffic Management Center (RTMC) is to provide area wide coverage during peak travel periods to monitor and respond to incidences that worsen congestion. The five transportation agencies all have either conduit or fiber already in place to allow communication for inter-agency operation. This project will create a regional transportation LAN that will provide the means for interoperability of agency devices.

S. The project will support the integration of the Advanced Traffic Management System components with other regional ITS and incident management systems and initiatives including the Service Patrols, Highway Patrol, Electronic Toll Collection System, and an Advanced Traveler Information System (ATIS).

T. This project will integrate the Automated Traffic Information System (ATIS) that provides up-to-date traffic, weather, and other travel information to visitors in the metropolitan area with the traffic signal management system from a neighboring metropolitan area. Connecting and sharing of information between these two systems will allow traffic management and traffic dissemination over a greater region.

U. The core of the project is to integrate the Transit Authority's communications system with the County Public Service trunked radio system. The purpose of this integration is to allow transit dispatchers and bus

drivers to have direct communications with the police and emergency forces, and serve as the nucleus for the regional integration of systems.

V. The Project will integrate the Regional Transportation and Emergency Management Center's traffic management, safety management, and transit management systems.

W. This proposal focuses on developing a reliable, multi-agency, communication network to facilitate sharing of regional information. The project will initiate the construction of a wide area network (WAN) using proven and cost-effective wireless (spread-spectrum) technology. The WAN will provide the infrastructure necessary to exchange data among multiple agencies and to serve as the backbone for later phases of the Regional GIS/ITS Initiative.

X. The project will enhance the management of winter road maintenance in rural areas through cross-jurisdictional cooperation and the application of state-of-the-art technology. Information from the specially equipped vehicles will be transmitted via radio back to the central servers. Agencies will be able to view the status of all trucks and receive information which will improve the management of these vehicles during winter storm operations.

Y. The Systems Integration Project has three phases: Phase 1: Development of a detailed transit architecture and plan; Phase 2: Development of an overall regional ITS architecture; and Phase 3: Integration deployment. Using the recommendations of Phase 1 and Phase 2, one or more high priority integration initiatives will be identified and undertaken.

Appendix B

Additional Information on Eligible Integration Activities

Integration activities - but not infrastructure deployment activities - are eligible for funding with the ITS Congressionally Designated funds and the 20% matching share. (Note: For projects outside of metropolitan areas (for Statewide applications or in rural areas), funding may be used for integration purposes as well as for limited deployment of ITS infrastructure components to support integration.)

Communications Equipment	Installing communications equipment could be part of an integration activity or an infrastructure deployment activity. Eligibility for funding as an integration activity is determined by the use of the communication system to allow for the sharing of information either (1) to integrate different types of systems or (2) to integrate individual systems across jurisdictional or agency boundaries. The complexity of specific deployments makes it impossible to define, in advance, all the eligible and non-eligible communication configurations; nevertheless, representative examples of what is and is not eligible can be presented. Installation of communications hardware, software, and cable to integrate multiple Traffic Operations Centers meets the criteria. Installation of communications hardware, software and cable to support infrastructure deployment, such as a variable message sign or a signal control system does not meet the criteria. Installation of communication systems to connect different jurisdictions meets the criteria. Installation of conduit is eligible if it is part of a communication system that meets criteria 1 or 2 above. Installation of conduit in preparation for later use is eligible if it will be part of a communications system that meets these criteria and the project commits to deploy the cable through the conduit within a reasonable time frame. A communications "backbone" must also meet criteria 1 or 2 above. The backbone must be accessible for the connection of multiple systems or multiple Traffic Operation Centers.
Transportation Operations Centers	For defining eligible integration activities associated with Transportation Operation Centers (or Traffic Management Centers (TMC)), the TOC is considered to have two parts. The first part is the physical structure or building; the second part comprises the communications and computer equipment used during the operation of the TOC. The first part is not eligible for funding by the ITS Congressionally Designated funds and the 20% matching share; the second part is eligible. Both parts are eligible as 30% Match. Questions concerning the eligibility of specific pieces of equipment are determined according the to following criteria: equipment that is typically associated with any building is not eligible; equipment that <u>is</u> unique or specific to the operation of a TOC is eligible. Walls, plumbing, or ceiling tiles would not be eligible. Special equipment needed specifically to support the operation of TOC equipment would be eligible.

Hardware and Software Interfaces	Hardware and software needed for the exchange of information or data among Systems are eligible for funding with the ITS Congressionally Designated funds and are eligible for 20% Match. For example, costs related to the deployment of interfaces or translators among systems or infrastructure elements are eligible when they result in the integration of the systems. In the case of Geographical Information Systems (GIS), development of an individual (GIS) is not eligible for funding with the ITS Congressionally Designated funds or 20% Match; costs associated with integrating multiple GIS among different systems or jurisdictions to improve traffic operations are eligible.
Laptop Computers	Laptop computers are eligible for funding with the ITS Congressionally Designated project funds and the 20% matching share only if they are used in the integration of systems, that is if the laptops are used primarily to share information across systems or control integrated systems.
Research and Planning Activities	Research activities or planning and design activities that directly support a) the deployment or expansion of integration activities or b) the completion of a regional architecture are eligible when accompanied by a commitment in the Project Description that, within a reasonable amount of time, the research, planning, or design activities will lead to integration activities, that is to an actual deployment of integrated systems. Two examples of such eligible activities are: the development of a prototype integrated system planned for regional or state-wide deployment; and the design and development of specification for a TOC or communication system that supports integration. For rural Projects, in addition to integration activities and deployment of integrated systems, the research activities or planning and design activities are eligible when accompanied by a commitment in the Project Description that, within a reasonable amount of time, the research, planning and design activities will lead to the deployment of ITS infrastructure elements.

Appendix C

Additional Information on Matching Funds

Use of Staff as Match	Our longstanding policy regarding the 20% non-Federal match required for ITS funded projects is that the match must consist of either cash, substantial equipment contributions that are wholly utilized as an integral part of the project, or personnel services dedicated full time to the project for a substantial period, as long as such personnel are not otherwise supported with Federal funds. The intent behind this requirement is to ensure an adequate level of commitment to the project/activities proposed by the ITS funding recipients. The determination of acceptability is relatively straightforward with regard to contributions of cash or substantial equipment that is wholly utilized as an integral part of the project. On the other hand, the expectations on what would be considered acceptable relative to personnel services has not always been fully understood. Typically, there is confusion regarding the implications of being dedicated full time to the project as well as with what would be considered a substantial period. There is also confusion on the types of services that would be considered acceptable in order for the personnel involved to be considered as match. In light of this, further clarification is being provided to enhance understanding of what personnel services would be considered acceptable as part of the 20% non-Federal match required for ITS funded projects. The intent is two-fold and can be characterized as follows - eligible personnel services must: 1) provide a substantial contribution to the project in terms of both technical role as well as time committed to the project; and 2) be easily auditable. Accordingly, the following parameters need to be met: • The personnel involved must be key professional staff (a project manager or a lead engineer) responsible for carrying out critical technical parts of the project. • Individual time commitment to the project must be no less than 25% as determined by dividing the time spent on the project by the total project duration. This time must be auditable.
Use of Substantial Equipment or Facilities as Match	Substantial equipment or facilities contributions that are wholly utilized as an integral part of the project are eligible for 20% Match. This equipment or facilities purchased with non-federal funds must be committed solely to eligible integration activities in order to be eligible for the 20% Match. Equipment or facilities that are wholly utilized by the Project to support integration, but not exclusively for integration activities; equipment or facilities that are partially utilized for integration activities; and equipment or facilities that have been purchased with federal funds are eligible only for the 30%.

Period of Matching Funds	To be eligible as 30% Match, projects directly associated with the proposed integration project must begin after authorization of the ITS Congressionally Designated funds by the FHWA Division Office or FTA Regional Office. Only funds expended during the duration of the integration project on eligible activities can be used as match. Except under special circumstances, projects that begin prior to authorization of the Congressionally Designated funds by the FHWA Division Office or FTA Regional Office are not eligible as match.
Acceptable Future Revenue Funds	Matching funds for a Project must be available and applied totally during the duration of the Project. If potential revenue streams or lease values are proposed as match, their value should be estimated as the revenues or lease values during the duration of the Project. Funds from (new) revenue streams that are proposed as match, but do not have a historical basis for valuation, that is, they have not generated revenue prior to the start of the Project but that are expected to generate revenue sometime after the Project start, must be accompanied with analyses and/or documentation supporting their validity and reliability as sources of the matching funds. If the source of funds is uncertain, then an alternative source of match must be available to satisfy the requirements should the estimated income fall short or does not materialize. The validity and reliability of the sources should address the following questions: Are the required funds cash? Are the required funds available now or will be at Project startup? Is the source producing revenue now and will it be doing so during the duration of the Project? Is it highly probable that the source will generate the required amount of funds and how was this determined? Is there another source available to the Project if the first source fails? In accordance with 23 U.S.C. § 120(j) toll credits proposed as match are acceptable.
Clarification of Source or Type of Match	Since the Congressionally Designated Funds and Match are to be used for funding the Project's activities, the Project Description must make clear what activities are included in the Project and what portion of the project funds go toward infrastructure projects versus integration activities. A breakdown of project activities and costs associated with them is needed. The dollar amounts and their uses provided in the Financial Plan should be fully substantiated in the body of the project description. The costs of equipment or facilities, systems and activities (at a high level) must be specific in order to determine suitability for the 20% Match and the 30% Match. There should be no discrepancies between the Financial Plan and other sections in the Project Description. The template for the Project description has been revised to identify the funds as to: Match (20% or 30%); type (cash, equipment or facilities, personnel services); source (Federal, state, private sector); and use (integration activities and infrastructure projects described in the Project Description).
Combined Rural and Urban Projects	Criteria for eligibility for funding with the ITS Congressionally Designated funds and the 20% matching share are different depending on whether the project is a rural or an urban project. For rural projects only, deployment of ITS infrastructure is eligible. However, it is possible for a project to encompass both rural and urban areas. In such a case, the components, activities, and equipment must be identified in the project in terms of their location and use in either the rural or urban area.